

view of U.S. Patent No. D377341 issued to Imai et al. ("Imai"). Applicant finds no record of a U.S. Patent Number 5,581,274 issued to Tagawa. However, the Office Action cites "Tagawa (058)" which Applicant assumes is U.S. Patent Number 5,392,058 issued to Tagawa, and bases the comments below based on that assumption.

Applicant's invention in one embodiment is directed toward an apparatus for splitting logically an LCD or other similar display panel into independently controllable sub-panels. This allows each sub-panel to be powered up or powered down as desired and thus, can save power. In portable or small information devices such as PDAs (personal digital assistants), it may be useful to allow a selected portion of the display panel to be powered on and the other portion(s) powered off so that only the portion of the display that might be used is one powered on. For instance, in a PDA with a cellular telephone feature, it may be desirable that only the cellular telephone feature needs to be operational. In such a circumstance, it would be advantageous to power only a small section of the display panel sufficient in size for displaying information relevant to the operation of the cellular telephone such as the telephone number or battery indicator. Claim 1 recites such an apparatus, namely, with two key elements, "a plurality of segment drivers" and "a power control block ... to disable a first power source which powers down said first set of segment drivers, said powering down disabling a first set of sub-panels of said display panel from outputting pixels." This first set of sub-panels is capable of thus being independently operated

from the remaining sets of sub-panels that compose the entire display panel.

The Examiner cites Tagawa '058 (specifically Figures 8,9, 46 and 49) as teaching/disclosing most, if not all, of the elements recited in claim 1. Applicant contends that upon review of the cited art, certain features of claim 1 are not disclosed or suggested. Tagawa '058 is directed to an integrated display and tablet device. Specifically, Tagawa '058 mentions two "periods" or mode of operation for the integrated device. The first of these modes is the detection mode wherein the coordinates of a detection pen placed upon the display panel is determined. The second mode is the display mode wherein pixels are driven to the display panel for output. In the display mode, which is of more relevance to the claims under examination, an image is simultaneously displayed on both "side half regions" simultaneously in order to improve the overall duty ratio of the display. Further Tagawa '058 teaches several mechanisms for switching either between a serial mode or a parallel mode for driving data to the panel. In both the serial and parallel mode, both half side regions of the display, as Tagawa '058 defines them, are active and powered. In the parallel mode, both the common drive circuits are fed simultaneously while in the serial mode, the common drive circuits are driven in a serial fashion, with one following the other such that when all data is driven, the entire display panel is active.

In stark contrast, Applicant's invention specifically recites

the disabling of at least a portion of the display panel while leaving the remainder of the display panel powered and active. This feature is nowhere taught in Tagawa '058. Tagawa '058 teaches away from the claimed invention in that for either serial or parallel mode the entire panel both half regions, are powered. Further, Tagawa '058 teaches away from the claimed invention in that in order to improve the duty ratio of the display, both halves of the segmented display simultaneously output an image. According to an embodiment of Applicant's invention, the disabling of the segment drivers for a set of sub-panels also disables the outputting of pixels to those sub-panels (claim 1).

Tagawa '892, also cited by Examiner is a mere variation of the Tagawa '508 patent including a clocking method and apparatus in attempts to attain higher detection accuracy of the pen when electrostatically contacting the display/tablet device, and thus, has no relevant teachings or suggestions to Applicant's invention as claimed.

The design patent Imai appears to show a window on an outer body member which allows a portion of the interior of the device to be in view when the device is closed. However, nowhere in Imai is it suggested that the interior of the device includes a display panel. While it may be conjectured that the interior flat panel is a display panel, the combination of Imai with either Tagawa reference would not yield nor render obvious the claimed invention since Tagawa '058 and '892 do not teach/suggest the powering down of sub-panels of a display. While Paajanen may teach the covering of a portion of the display terminal, this does not automatically

suggest to the segmentation of drivers and the powering down of certain of those drivers to save power. The citing of Paaanen for that proposition is improper hindsight and therefore, not valid. Again, since none of the cited references teach the disabling of one set of segment drivers and consequently, the sub-panels which they operate, the combination of Paaanen and the cited references would not yield nor render obvious the claimed invention.

CONCLUSION

In view of the foregoing, Applicant submits that the 35 U.S.C. §103 rejection of claims 1-13 has been overcome. Applicant further submits that claims 1-13 now pending patentably define Applicant's invention over the prior art and are in condition for allowance. Accordingly, such action is earnestly solicited at the earliest possible date.

Respectfully submitted,

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